

WATER ALLOCATION PROGRAM DEVELOPMENT

Meeting Proceedings

Thursday, September 25, 2003

9:00AM-11:00AM

Narragansett Bay Commission
One Service Road, Providence, RI 02908

I. Opening Remarks-

Mr. Dan Varin, Chairman of the Water Resources Board welcomed those attending and thanked them for their continued participation. He stated that he had a two-hour meeting earlier in the week with staff and felt that the pieces were coming together, becoming coherent and that the process continues to be effective. He stated that the agenda had been modified to accommodate a report from the Education Committee first. Mr. Chip Young presented an overview of the importance of developing a coherent message. He directed the group's attention to materials that were distributed:

1. A Matrix of Education Messages by committee. He thanked the Committees for their input in July, which resulted in the matrix.
2. A summary of the two major needs- education and training.

He stressed the need for funding and recognized the critical role of the joint advocacy effort moving forward. For the public relations effort there is a need to fund products and lobbying efforts. Related to content, he mentioned the "three Barks" rule of thumb; the need for three clear concise and consistent messages. The message should address the "So what?" and relate to the audience. How does it relate to a legislator? To the average citizen? There is also the need to determine the costs and who will pay for it. There are many pieces emerging that will likely require legislation. He stressed the need to develop a comprehensive package. In reviewing the public relations messages, he stated that the priorities are listed but that other messages developed by the committees are important as well and have not been forgotten. The key is to take a very complex issue and focus on the priorities.

Other important considerations for the committee in mapping out a media strategy include identifying the 'friends' and 'opponents' in the General Assembly. What are their arguments? Testimonials may help relate the issues to the needs of specific interests (i.e. businesses, municipalities, etc.). There is an overarching need, particularly with the Providence Journal, to identify this effort to the public as a statewide issue. We will hear that "this is a waste of money" and will need to be prepared to respond. This year there was no catastrophe. The message instead is that last year we had a drought, this year soaking rains. What will happen in 2004 and are we ready? This is a comprehensive, long-term program. As a group, it will be important to reach consensus on key issues to be addressed in legislation. Ideally, a 'contrarian' will publicly support the initiative.

Ms. McGreavy restated the importance of the education message and the importance of comprehensive legislation. It was noted that timing is important in terms of advocating recognizing that we are developing the program and the strategy at the same time.

II. Presentation, Out of Basin Transfer Committee

Ms. McGreavy introduced members of the Out of Basin Transfer Committee will present an overview of the committee's work and preliminary recommendations. She recognized the group for their hard work and the expertise they represent:

Kevin Cute, Marine Resource Specialist, Coastal Resources Management Council
Alisa Richardson, PE, Principal Engineer, RIDEM, Office of Water Resources
Jeffrey Hershberger, Senior Hydrogeologist, ESS Group
Herb Johnson, Hydrologist and retired Chief, RI USGS
Henry Meyer, Kingston Water District, and Chair, South Kingston Planning Board

Introduction

Mr. Cute introduced the topic stating that the presentation would provide an overview of the committee's work and recommendations. He stated that an important overarching concept is that of reasonable need. The model code prohibits out-of-basin transfers if they negatively affect the social, environmental and economic development goals of the donor basin. The reasonable needs are protected by establishing minimum streamflows and levels in aquatic and water bodies. The mission of the committee is to **develop criteria for out-of-basin transfers that protect the reasonable needs of water basins**. Towards the mission, the committee:

- Developed working definitions for “water basin”, “out of basin transfer”, and “geographic water accounting area”
- Performed a GIS Analysis of water and wastewater conveyances in the Chipuxet Subbasin
- Recommended actions to address OOB T

Definitions and Mission

- Water Basin - is an area of land from which all waters drain, on the surface or beneath the ground, to a common point or altitude. Out-of-Basin Transfer - is any conveyance of water, including wastewater, by any means regardless of the quantity involved, out of a water basin. Geographic Water Accounting Basin - areas or basins in which comprehensive water use information will be periodically accounted for.

Mr. Cute noted that the definitions are broad to allow for latitude and flexibility in addressing issues at various scales. The committee discussed geographic basin delineations (specifically HUC 10 and HUC 12) but found that impacts from transfers can vary. He also stated that the word “altitude” is included in the definition to include subsurface drainage to the coastal areas. Accounting basins will define physical areas to collect meaningful data that will drive good management decisions. As a committee, they reviewed the Massachusetts Interbasin Transfer Act. They discovered that while the Act and the permit approval criteria provide a good frame of reference, there are few applications. The process is overly regulatory leading in some cases to new well development rather than a request for an out-of-basin transfer when a transfer would have less impact. They studied the model code and the positive and negative impacts of out of basin transfers on the receiving and donor basins. For the receiving basin, positive impacts include water to support development in water short areas and during emergencies and alleviation of “stressed basin” conditions. They learned as a committee the importance of firefighting capability as a stand-alone criterion to be prioritized in an allocation scenario. It can also be the reason for a public supplier to increase capacity, which in turn accommodates development. A positive for the donor basin is potential monetary compensation for water transferred. Negative effects include:

Basin of Origin:

- Alters the natural hydrologic cycle
- Reduces availability of water for use including fire-fighting
- Lower stream flows impact usability of the resource and viability of wildlife habitat
- Typically, no provision for return flows to recharge the resource
- Politically unpalatable from an equity standpoint

Receiving Basin:

- Alters the hydrologic cycle
- Discharged wastewater impacts water quality
- Flooding from excess water can occur

Current Out of Basin Transfers, Kingston Water District, Mr. Henry Meyer

Mr. Meyer discussed water supply, noting that suppliers do not own the water until it is transferred, i.e. in the pipes. There are approximately 12 interconnections serving some 24 systems. The Kingston system is located on the hydrological divide between the Saugatucket and Chipuxet basins. The Kingston system mirrors the trends statewide. Kingston Water began serving the village with some 1,000 ft of pipes and has grown to 25 miles of pipes serving a three-mile radius. As population increases so does the pumping capacity but not directly. The growth of the pumping capacity increases to handle major/peak flow needs such as firefighting. The oldest part of the village (circa 1890's) requires the capacity to pump 3,000 gallons per minute for firefighting. 60%-75% of the water that Kingston Water distributed (0.3 mgd) leaves the basin as potable water or wastewater. The narrow watersheds result in an out of basin transfer within the relatively small geographic area (3 miles). Mr. Meyer stated that URI pumps similar volumes according to the URI Water System Supply Management Plan. Since URI is 100% sewer, it is reasonable to assume that similar amounts are exported as wastewater. When United Water RI (2.8 mgd), Kingston (0.44) and URI (0.44) withdrawals are added together and adjusted for return flow, the net volume of water discharged approximates the flow of the Chipuxet River at 98% flow duration. A USGS study of the Chipuxet stated that 8 million gallons per day could be pumped from the basin, however the stream would go dry for extended periods.

Current Out of Basin Transfers, the Chipuxet Basin, Mr. Jeffrey Hershberger

Mr. Hershberger stated that the Committee selected a case study in February to assess and visually depict current out of basin transfers. They struggled with the notion of what size geographic area would be appropriate. They reviewed draft information from the Blackstone and Pawcatuck water use studies. Initially they intended to look at the entire Pawcatuck basin. They settled on the Chipuxet basin due to data availability, time, and the desire to graphically depict water movement. They used a HUC 12 delineation which required data manipulation since the water use study followed the groundwater divide and was somewhat different. Potable water transfers are substantial in the southern and middle portions of the basin. In addition, groundwater can leak into the sewage conveyance. As a result, inflow and infiltration can be significant, particularly in dry weather and during the summer months. The committee spent 6-7 months developing and discussing the map. The process stimulated good conversations about water quantity and movement and potential management efforts. The amount of potable and wastewater transfer compared to streamflow was significant. In short, in this basin, out of basin transfers are a one-way street. No water imports or return flows were identified. A final issue discussed by the committee is that of evaporative loss.

How much water leaves a basin in the form of evaporation and how should this figure into management decisions? As a committee, they felt that it was an important concept to consider, though difficult to quantify.

Managing Out of Basin Transfers, Mr. Herb Johnston

Mr. Johnston stated that the water use study data is entered into a data system that tracks the use and movement of water. The New England Water Use Data System (NEWUDS) is a potent tool for managing and allocating water resources. He described the Blackstone basin study data noting that NEWUDS can track water/wastewater information at the subbasin level. He stated that approximately 10% of the public supply is imported and roughly 54% is exported mostly by the Pawtucket Water Supply Board. Of the 30 mgd developed for supply in the basin, about 4 mgd or 14% is exported as wastewater. This represents a small percent of the total flow of the Blackstone River and is not as significant an issue for the Blackstone relative to low flow (50 mgd) as it is for the Chipuxet. He summarized consumptive losses noting that their impact on a stream is the same as an out of basin transfer or direct pumping. Evaporative losses are about 4.5 mgd, 2.5 of which are from the Ocean State Power facility.

Mr. Johnston stressed the importance of managing groundwater. In the Ipswich basin in Massachusetts the export of groundwater has resulted in a large portion of the stream going dry. The importance of managing out of basin transfers is to prevent streamflow depletion and to ensure sustainability during an extended drought. Management of withdrawals is also needed to preserve water quality and habitat. In Rhode Island, there are no provisions for water quantity to enter into local land use decisions. The Chipuxet for example is overlain by three towns. Reasonable local decisions do not necessarily address the needs of the whole basin. Local officials do not have the expertise to evaluate water availability. Currently an applicant/developer can spend a lot of time and money to develop a water source. If found to impact a wetland they can be told that they cannot develop the source. He stated that statewide management is needed to include overall criteria and a preapplication process. This would clarify the process and alert developers to any problems in advance.

RI Legislative and Regulatory Overview, Mr. Kevin Cute

Mr. Cute stated that there is no legislation developed expressly for regulating out of basin transfers though there are regulatory programs that include stipulations. The CCMP's Special Area Management Plans (SAMPs) prohibit out of basin transfers, though their primary purpose is to preserve the quality of the coastal salt ponds. Their jurisdiction is limited geographically. On a broader scale, the Department of Environmental Management (DEM) freshwater wetlands permitting is required for uses that impact a wetland. He stated that numerous agencies address water use but in a piecemeal fashion. He summarized the conclusions and recommendations:

- There is a need for data to assess impacts and the need for a statewide water information system (the WRB/USGS basin studies and NEWUDS database) as well as GIS and computer simulation models.
- Out of Basin transfers should be one element of a comprehensive statewide water management approach.
- Watershed, basin wide approaches should incorporate land use planning at the regional and local levels, and community comprehensive plans.

In general, the committee felt that out of basin transfers should be discouraged particularly for groundwater, while encouraging emergency interconnections, and recognizing existing written agreements between suppliers. They recommended investigating a comprehensive water withdrawal permitting system, which includes out of basin transfer as one criterion in a broader system. In addition, they recommended investigating a “pre-application review process” similar to the CRMC process to allow the applicant to receive technical assistance before developing an application.

Discussion

Mr. Donahue asked whether there had been any analysis of the difference between evaporative losses from agriculture compared to a natural wooded environment. He stated that if evaporation was considered an out of basin transfer there would be a need to look at all uses including evaporative losses from natural vegetation not just agriculture. Mr. Hershberger stated that evaporation is more of an issue during arid or drought conditions. They felt as a committee they should investigate all movements of water and acknowledged that evaporation is difficult to quantify.

Ms. Karp stated that there is probably more regulatory authority than noted here, specifically in the form of “enforceable policy” in the State Guide Plan, and the New England Interstate Water Pollution Control Commission (NEWPCC) guidelines for out of basin transfers.

She asked about the three suppliers in the Chipuxet and how apparent conflict will be resolved. Mr. Meyer stated that major withdrawals occur in two regions, above Route 138 and below Route 138. There is enough recharge in the basin to support pumping 8 mgd. However, in the summer months the stream would go dry. In the northern region, withdrawals seem viable in relation to flow. In the southern region, there is very little flow data. He stated that there is no competition at this point. He believes that Rhode Island has a unique opportunity to develop a comprehensive approach. Mr. Johnston stated that one of the recommendations is to manage withdrawals through a permit system to prevent over development in the future.

Ms. Lundgren asked whether they had looked at opportunities to put water back into the basin. Mr. Johnston stated that other committees are developing these types of recommendations and that this is another reason why out of basin transfers should be part of a comprehensive management scheme. There should be criteria for ensuring that all conservation measures have been employed by donor and receiving basins before allowing out of basin transfers. Mr. Meyer cautioned in returning water to the basin, it is critical to recognize the geographic proximity and potential effects on public supply. There was continued discussion about the value of water, existing transfers, the need to assess impacts, and opportunities to review existing programs and data collected from them. The RIPDES inflow and infiltration data was cited as an example. It was noted that corrective actions to address inflow and infiltration are extremely expensive. There was discussion about whether transfers should be managed rather than discouraged recognizing that the current infrastructure was built on interbasin transfers. The idea is to ensure that future transfers are not detrimental to the basins and the watersheds. There was discussion regarding ownership, potential incentives for conservation and the value of water. Mr. Meyer stated that most of the capital projects involve building new capacity for emergency use of water. Ms.

Bondarevskis stated that Providence Water, as a regulated utility receives no profit for selling water. The Water Rates Committee research indicated that water pricing can send a pricing message, but usually only for a limited time. Conservation programs including conservation kits and education efforts statewide will do more to conserve water into the future.

Committee Reports

Ms. Veeger reviewed the progress of the Water Use Reporting Committee citing the need for better data (handout). The committee is recommending refinements to data collected from major suppliers. They have identified a need for data from commercial self-supplied users, domestic use variation by season, and the impact of residential automatic irrigation (lawn sprinklers). They recommend reporting above a hydrologically based threshold, currently anticipated to be 20,000 gpd.

Mr. Mariscal distributed preliminary recommendations and noted that the committee had not yet reviewed and commented on them. This would be the agenda for their next meeting. He reviewed topics that the committee had discussed in detail including current reuse projects in Jamestown, demonstration projects, the Gillette stadium and the “green roof” mill demonstration project. He talked about other opportunities and emphasized the importance of highlighting Rhode Island projects. Potential opportunities for state-sponsored projects include the statehouse and Quonset Point/Davisville.

Ms. Good reviewed the six recommendations from the streamflow committee. Their focus has been on developing an interim standard, which is still under development, identifying data gaps and gaging needs, as well as a site-specific standard. They are working on a final report.

Ms. Bondarevskis stated that the rates committee identified rate structures, costs and the relationships to promoting conservation and preserving the resource. Ms. Connie McGreavy read a statement from Dale Thompson, lead of the Water Rights Committee. The water rights and regulatory authority committee has reviewed the existing water rights structure in Rhode Island, diagrammed the regulatory authority, and developed both general and specific structural recommendations on water rights. The regulatory authority diagram has been distributed previously. The preliminary report lists some general recommendations on the public interest in water; the reasonable use standard; and interconnections between water quality and water quantity, between groundwater and surface water, and between water use and land development decisions. The report also lists the agricultural subcommittee's findings on priorities of use. Finally, the report describes three different rights structures, including one focused on management of droughts, a full permit system, and a registration system (and also perhaps a combination of those).

III. Recommendations and Next Steps

Committees will continue to refine their reports, address feedback on recommendations and forward any changes. The Joint Advocacy Committee will convene to begin “packaging” the recommendations. The next meeting will be October 23 from 9-11 AM.